
INSTRUCTION MANUAL

1/3" W-Dynamic High Resolution Color Camera

EQ600 WDII

Version 1.0



About this manual

Before installing and using this camera, please read this manual carefully.

Be sure to keep it handy for later reference.



1. Read manual carefully before installing the unit.

Please read this manual first for correct installation and operation.

2. Never install the camera on a ceiling that cannot hold its weight

The product may fall down to cause damages.

3. Do not install the camera near electric or magnetic fields.

Installed the camera away from TV, radio transmitter, magnet, electric motor, transformer, audio speakers because the magnetic fields generate from above devices will distort the video image.

4. Always stop using when the product emits smoke or abnormal heat

5. Never disassemble the camera nor put impurities in it

Disassembly or impurities may result in trouble or fire.

6. Never face the camera toward the sun.

Direct sunlight or severe ray may cause fatal damage to sensor and internal circuit.

7. Keep the power cord away from wet and never touch the power cord with wet hands.

Touching the wet power cord with hands or touching the power cord with wet hands may result in electric shock.

8. Never install the camera in areas exposed to water, oil or gas.

The water, oil or gas may result in failure, electric shock or fire.

9. Cleaning

Do not touch the surface of sensor by hand directly. Use a soft cloth to remove the dirt from the camera body. Use lens tissue or a cotton tipped applicator and ethanol to clean the sensor and the camera lens.

10. Do not operate the camera beyond the specified temperature, humidity or power source ratings.

Use the camera at temperatures within 0°C ~ 40°C and humidity below 90%. The input power source is DC12V/AC24V.

Notice: The information in this manual was current when published. The manufacturer reserves the right to revise and improve its products. All specifications are therefore subject to change without notice.

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1. Product Overview

By utilizing Digital Pixel System™ (DPS) sensor technology, the new EQ600WDII dramatically improves the performance of surveillance camera in extreme lighting conditions. Where traditional CCD cameras have difficulty processing images in strong backlighting, the EQ600WDII processes each pixel independently, correcting for the variations and providing the best possible image under the lighting conditions.

1.1 Main Features

- 1/3" Color DPS sensor
- High resolution: Over 480 TV Lines/1.0lux and low speed shutter up to 32x
- Day/Night function
- OSD function control
- With programmable camera ID up to 12 characters
- Compact stylish design for discrete observation
- Free S/W for remote configuration through RS232 via PC
- Image flip: Horizontal reverse

1.2 Content List

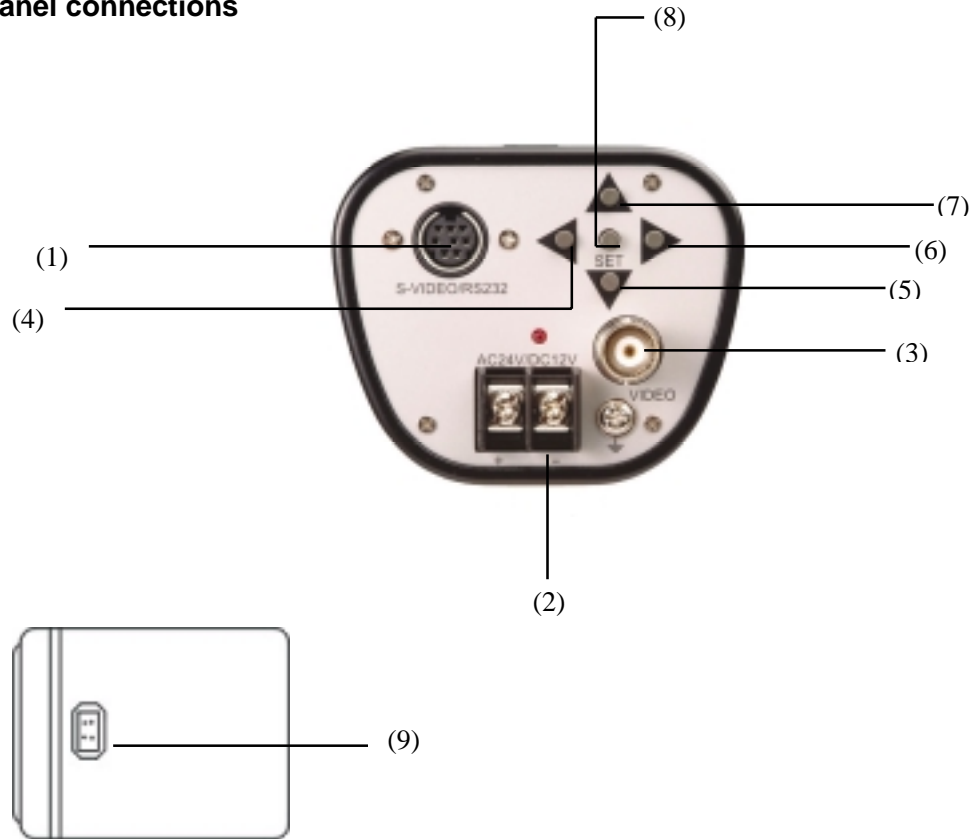
- 1/3" W-Dynamic High Resolution Color Camera unit
- User's manual
- Mini Din male connector cable for S-Video / RS-232

1.3 Specifications

Pickup Device	1/3" Color DPS sensor
Picture Element	720(H) × 540(V)
Horizontal Resolution	>480 TV lines
Sensitivity	1.0 Lux/ F=1.2 (50IRE color)
Low Speed shutter	Up to 32x(2,4,8,16,32)
S/N Ratio	>48dB
Auto exposure:	YES
Auto White Balance	Yes, 2500K ~9500K
Back light compensation	YES
Auto IRIS	YES
Video Outputs	1.0Vp-p composite S-Video(Y/C output)
Auto Gain Control	Yes
Day/Night function	ON/OFF
Dynamic range	95dB typical, 120dB max
Synchronization	Internal or Line Lock (AC input required)
Image Flip	Yes, Horizontal reverse
Video Output:	1 Vp-p / 75 ohm composite, S-Video (Y/C output)
Imaging System	NTSC/ PAL
On Screen Display	Yes
Power Source	AC24V / DC12V
Operating Temperature	0℃ ~ 40℃
Power Consumption	7W max.
Dimensions (mm)	56 (W) x 68 (H) x101 (D)
Lens mount	C/CS mount, DD Drive

Back Panel Connections

2. Back panel connections



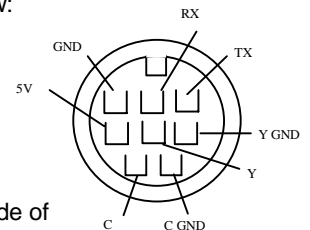
(1) S-Video / RS-232 port:

Connect Mini Din Male Connector to S-Video / RS-232 port for better video output quality or communication. Please refer to the pin assignment of the S-Video/ RS-232 port as below:

(2) AC24V/DC12V Compatible Input Terminal:

This power terminal is for connecting the AC24V/DC12V power supply cord

(3) Video Output Connector: Connect the video output of the camera to a color monitor or other video devices through a 75 Ohm type coaxial cable with BNC female connector at backside of the camera.



(4) Tact switcher for left cursor

(5) Tact switcher for down cursor

(6) Tact switcher for right cursor

(7) Tact switcher for up cursor

(8) Tact switcher for on-screen setting menu

(9) Auto Iris Lens Connector

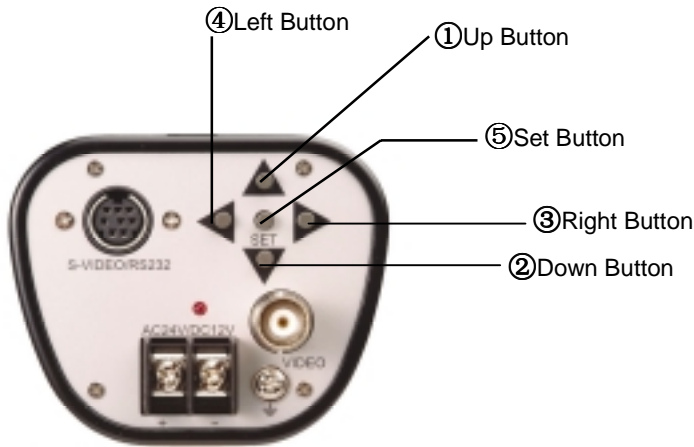
This connector is used to connect with the auto iris lens by a 4 pin male connector

	Pin 1	Pin 2	Pin 3	Pin 4
Video Drive	+12V	GND	VD-IRIS	GND
Direct Drive	Cnt-	Cnt+	Drv+	Drv-

3.Camera Setup Operations

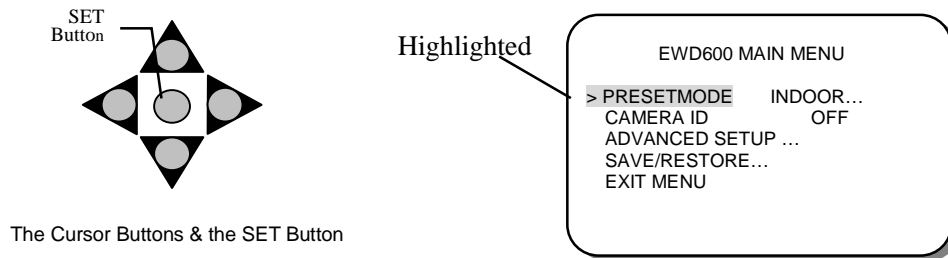
This camera utilizes an On Screen Display (OSD) user setup menu.

3.1 Setup Buttons: To set items on the user setup menu, use the following buttons on the back panel.



- ① **Up Button:** This button is used to move the cursor upwards. Use this button to select an item or adjust the parameters.
- ② **Down Button:** This button is used to move the cursor downwards. Use this button to select an item or adjust the parameters.
- ③ **Right Button:** This button is used to move the cursor to the right. Use this button to select or adjust the parameters of the select item. The parameter changes each time as this button is pressed.
- ④ **Left Button:** This button is used to move the cursor to the left. Use this button to select or adjust the parameters of the select item. The parameter changes each time as this button is pressed.
- ⑤ **Set Button:** This button is used to set the determined parameters. If the item has its own setting menu, press this button to display the setting menu.

3.2 Display/Close the user setup menu screen



I. Press the SET button for 2 second

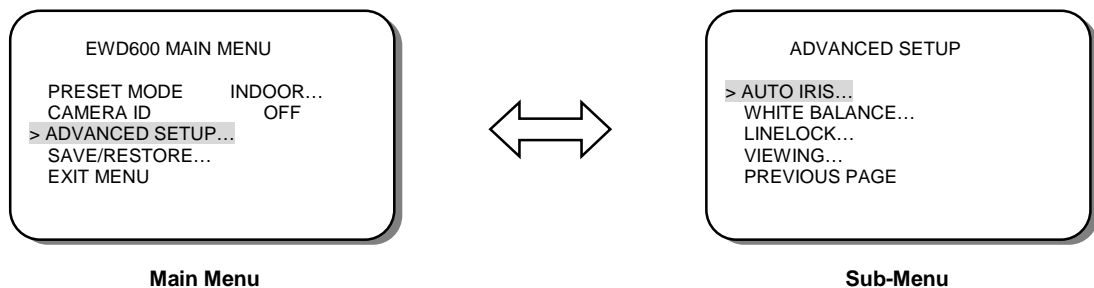
The menu screen will appear on the monitor as the block shown above.

II. Using the cursor button

Use the cursor button ▲ or ▼ to move the cursor up or down. Use the cursor button ◀ or ▶ to adjust the mode or parameter of settings. The select item will be highlighted with a gray color bar.

III. Switch to sub-menu screens

When the item with sub-menu is selected (highlighted), press the **SET** button to switch to the sub-menu for further settings. Please refer to the figure below.



Note: For those select items with “...” sign in the end, they have the sub-menu for further settings.

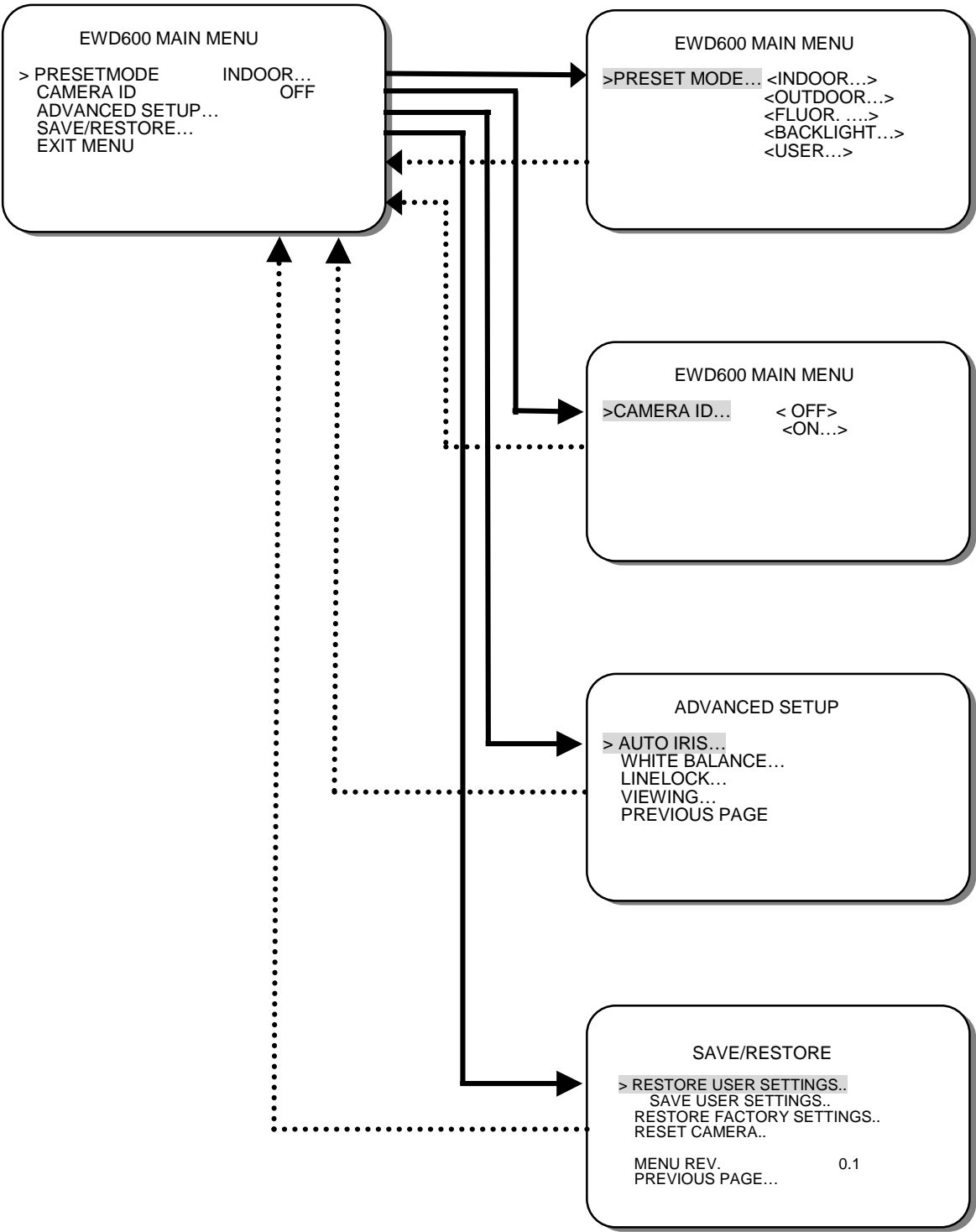
IV. Return to previous page

After setting, use the cursor buttons to select **PREVIOUS PAGE**, then press the **SET** button.

V. Close the menu screen

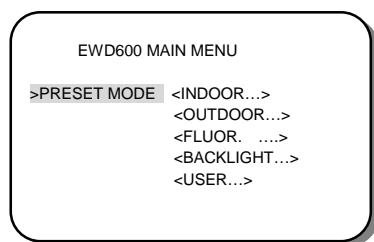
To close the menu screen, use the cursor button to select **EXIT MENU** and press the **SET** button. Or press the **SET** button for 1 sec.

4. MAIN MENU FLOW

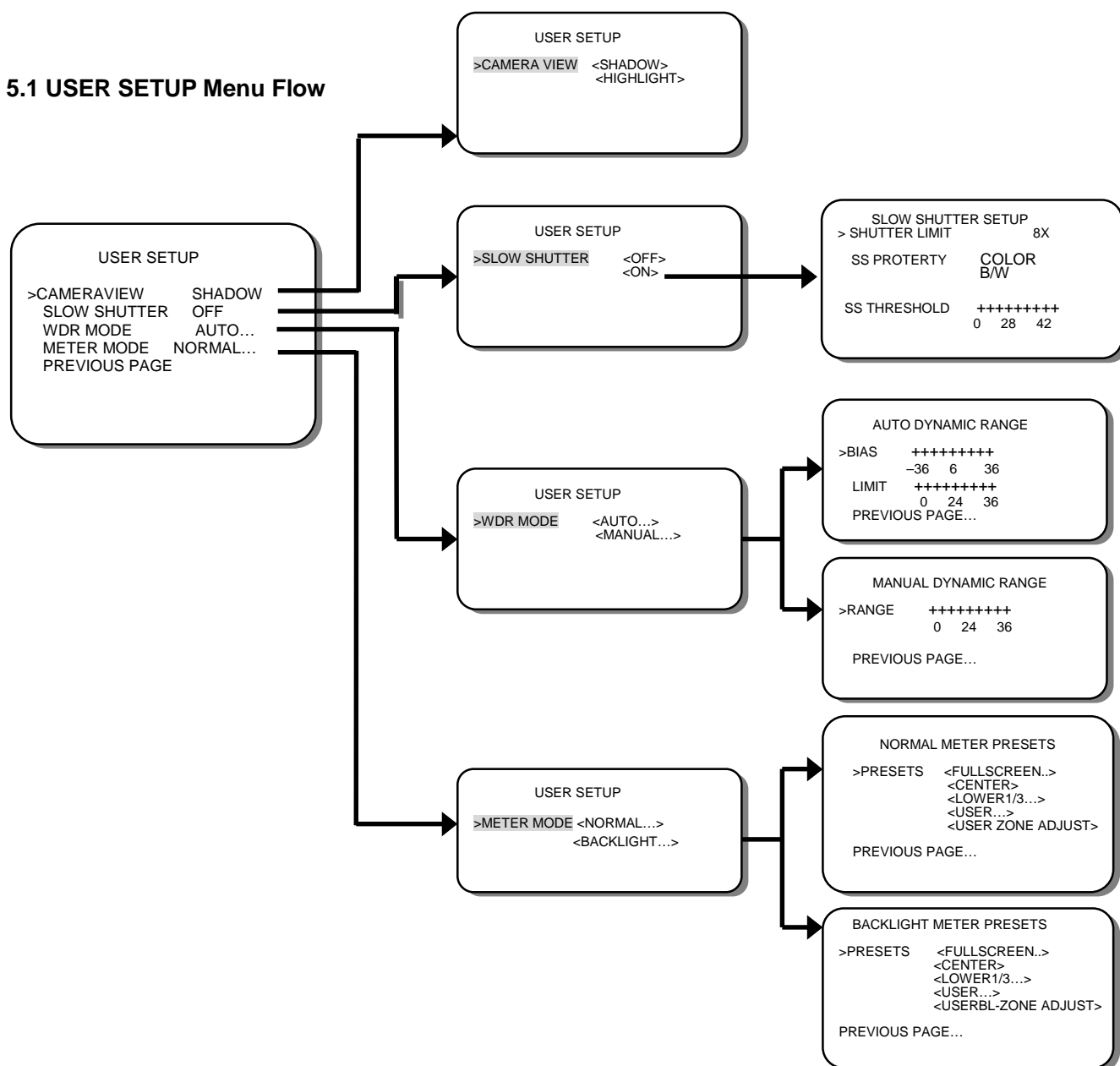


5. PRESET MODE

- I. Select the suitable settings, such as INDOOR, OUTDOOR, FLUOR. or BACKLIGHT based on the installation environment.
- II. Press the **SET** button to enter USER SETUP menu for adjusting the parameters.
- III. The parameters will be stored as USER automatically after changed.



5.1 USER SETUP Menu Flow



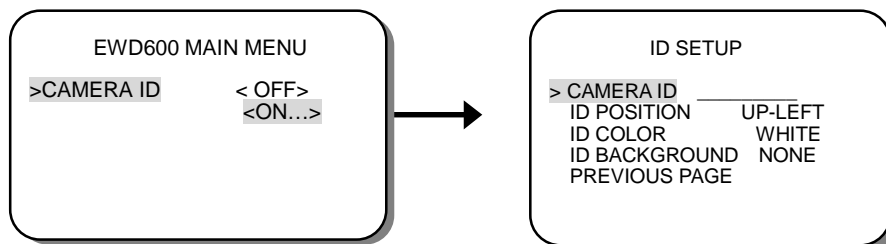
5.2 USER SETUP

- I. CAMERA VIEW: The lighting conditions of the area where the camera views. SHADOW or HIGHLIGHT
- II. SLOW SHUTTER:
 - When the setting is OFF, it is only operate with AGC in low light condition and keep the color image..
 - When select "ON" then camera will into the slow shutter mode in low light condition. User can setting slow shutter limit from 2x ~ 32x. And select COLOR or B/W image when slow shutter is operation by setting SS PROTERTY. Otherwise, user can setting the slow shutter start level with SS THRESHOLD. Set the parameter smaller let slow shutter start in more highlight condition, and larger, in more lower light condition
 - The default SLOW SHUTTER setting is OFF.
- III. WDR MODE: The camera offers outstanding Wide-Dynamic Range (WDR) up to 120dB.
 - Select "AUTO", the camera will automatically adjust to a suitable Wide Dynamic Range according to the lighting condition. In "AUTO" mode, the default BIAS is set at "0" but user can further define the BIAS of WDR. When you feel the contrast of lighting condition is larger, increase the BIAS. When you feel the contrast is smaller, decrease the BIAS. Under low contrast condition, set the LIMIT of WDR to a value lower to get better images.
 - Select "MANUAL", user can manually set the Dynamic Range by moving the tag along 0 to 36 level bar. When contrast of lighting condition is larger, increase the number, otherwise decrease the number towards "0".
- IV. METER MODE: For setting a frame of the lighting measurement.
 - Select "NORMAL" during the normal lighting condition. Choose a suitable frame location, such as FULLSCREEN, CENTER, LOWER1/3 and USER. If "USER" is selected, there will be a frame in green color shown on the screen. Use the cursor buttons ◀ ▶ ▲ ▼ to move the location of the frame, then press SET button. The color of frame will turn to white. Use ◀ ▶ ▲ ▼ buttons to enlarge the frame size, and press SET button. After resizing, the frame color will turn to red, use ◀ ▶ ▲ ▼ buttons to shrink the frame size, press SET button to accept the final setting.

- Select “ BACKLIGHT” in the strong backlight environment, for example, the lighting condition of building lobby. Set a suitable location or size of the frame by using the same setting procedures as “ NORMAL”.

V. PREVIOUS PAGE: Return to the previous page by selecting PREVIOUS PAGE.

6. CAMERA ID



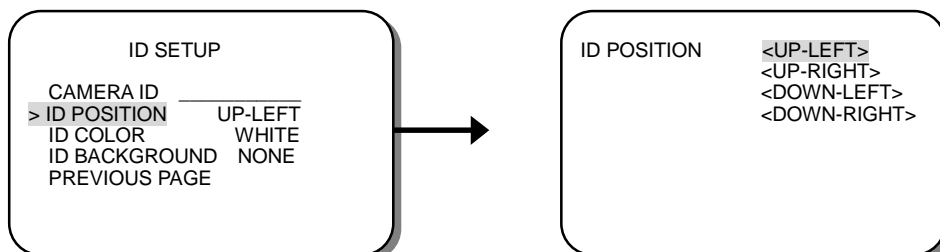
6.1 CAMERA ID: The camera ID can be turned “ON” to be displayed on the screen, or “OFF”.

- The default camera ID is “OFF”.
- When “ON” is selected, user can set the Camera ID up to 12 characters. Please refer to **Appendix A** for detail character patterns. Use the cursor button ◀ or ▶ to locate characters (characters will show up in the order of Appendix A), press the **SET** button to choose the character. Use the cursor button ▶ to move to the next character for setting.
- Once the characters of camera ID are all selected, press the **SET** button for 1 sec to close the menu and the Camera ID will show on the screen as the figure below.

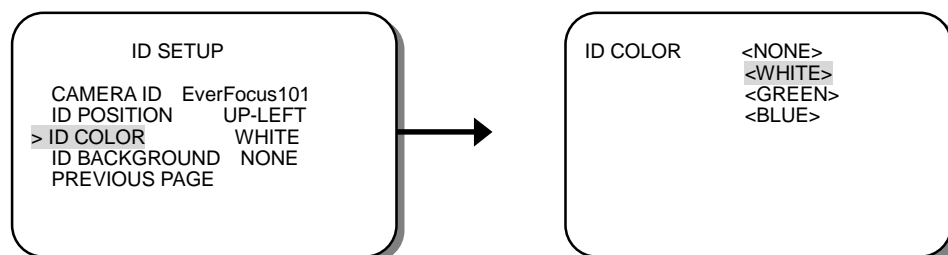
Ex:CAMERA ID EverFocus101



6.2 ID POSITION: There are four positions can be chosen to show the CAMERA ID on the screen. Choose an ID position that will not cover the import/critical part of images.

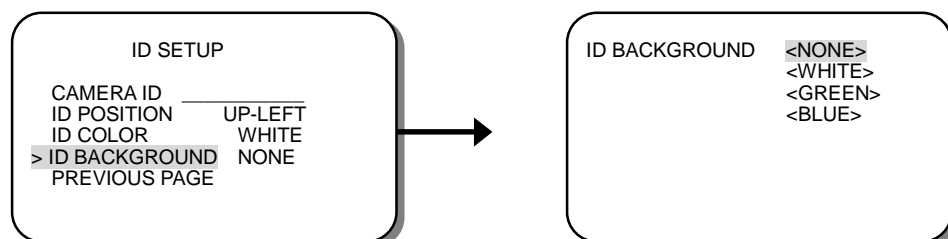


6.3 ID COLOR



To make the CAMERA ID more visible on the screen, four colors for the characters can be chosen.

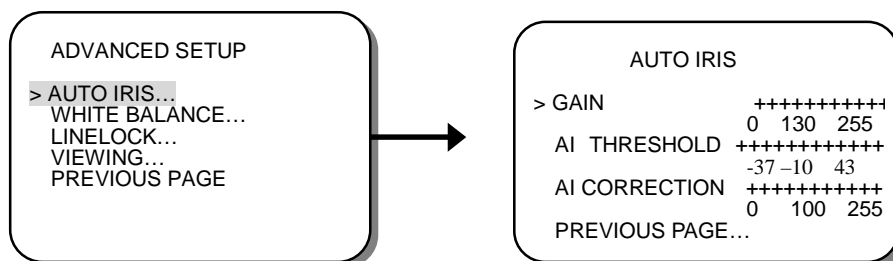
6.4 ID BACKGROUND



To make the CAMERA ID more visible on the screen, four background colors can be chosen.

7. ADVANCED SETUP

7.1 AUTO IRIS

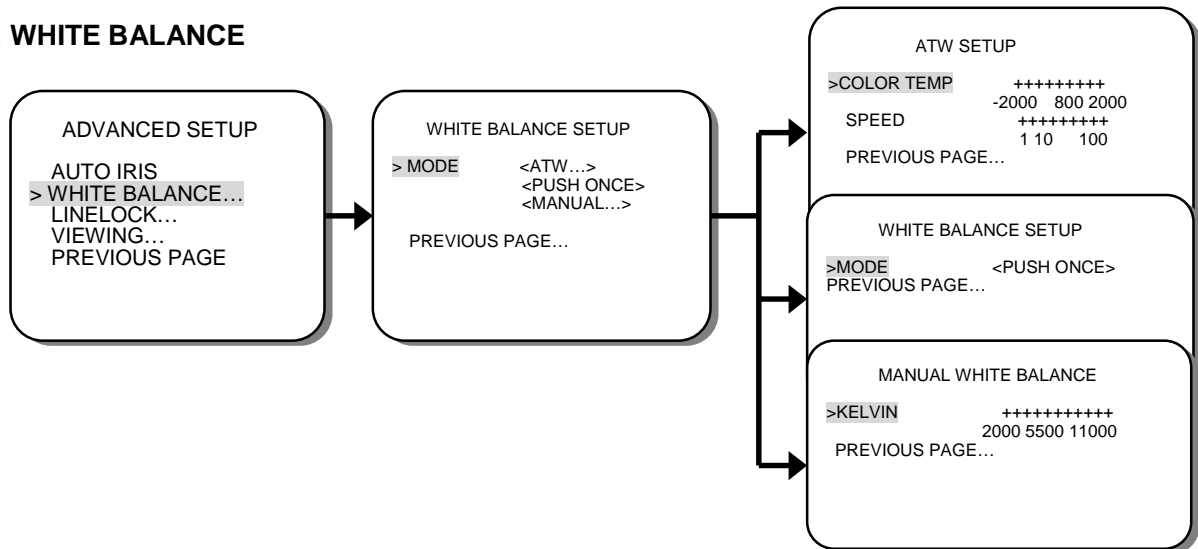


I.GAIN: Use ◀ or ▶ to adjust the DC IRIS GAIN from 0 ~255. The higher the DC GAIN, the more sensitive the camera will be.

II.AI THRESHOLD: Use ◀ or ▶ to adjust the THRESHOLD of AUTO IRIS level from -37 ~43. The smaller the THRESHOLD, the AUTO IRIS activates more early.

III.AI CORRECTION: Use ◀ or ▶ to CORRECT the AUTO IRIS lens feature from 0 ~255. The value is depend on AUTO IRIS lens feature. When iris can't open in power on period then adjust this value smaller. The large value are set in iris operation oscillation.

7.2 WHITE BALANCE



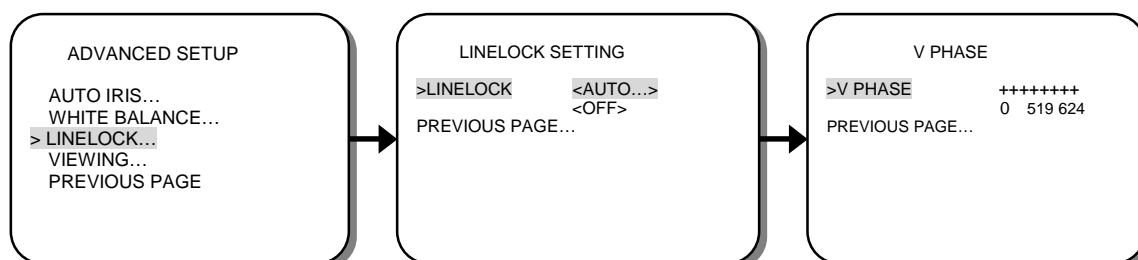
I.ATW: Auto Tracking White Balance. User can shift the ATW converge color temperature by “COLOR TEMP” setting from -2000~2000°K.

Then Select “SPEED” to adjust the tracking speed of auto white balance from 1~100. The larger value, the slower the speed.

II.PUSH ONCE: User can self-define the standard of white color by focusing the camera on a white object, then press SET button for once.

III.MANUAL: Use the cursor button ◀ or ▶ to set the KELVIN of White Balance from 2000°K ~11000°k. The bigger the KELVIN value, the higher the color temperature.

7.3 LINELOCK

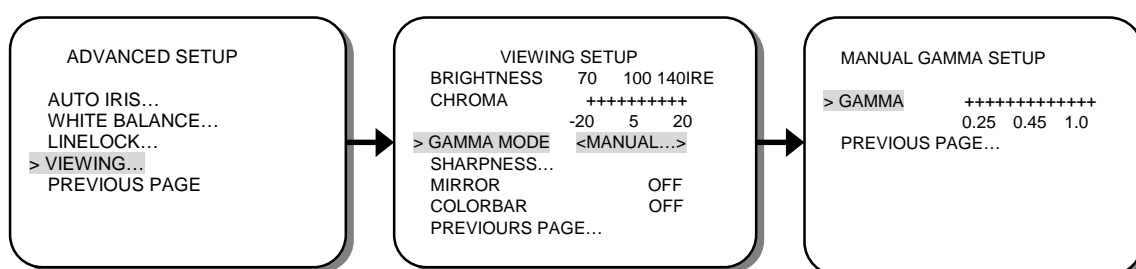


I.AUTO: Set as AUTO LINELOCK mode, it will auto sense the line signal to decision whether running LINELOCK function or not. And press SET user can into the adjustment manual of V PHASE use button ◀ or ▶ to select the V PHASE from 0~624. The larger the V Phase parameter, the more delay time the LINELOCK.

Note: LINELOCK is only effective while the camera is connected to AC power.

II.OFF: Set the LINELOCK function off.

7.4 VIEWING

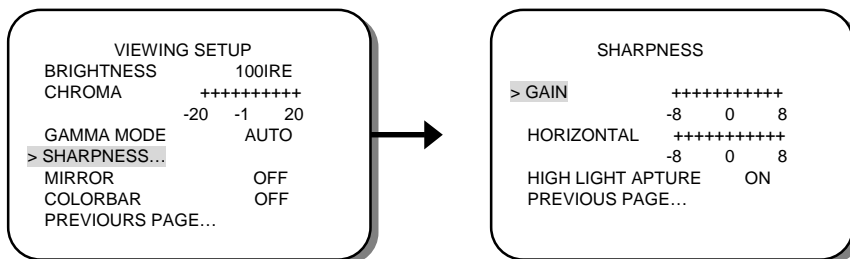


I.BRIGHTNESS: Use button ◀ or ▶ to adjust the BRIGHTNESS Level from 80 ~150 IRE. The larger the BRIGHTNESS Level, the brighter the Camera displays.

II.CHROMA: Adjust the CHROMA saturation level of the video output. The parameter range is from -20~20. The larger the CHROMA parameter, the stronger the color

III.GAMMA: There are three modes can be chosen to adjust the GAMMA correction coefficient.

- Set “AUTO” for automatically setting the GAMMA correction coefficient.
- Select “MANUAL” to adjust the GAMMA correction from 0.25 ~1.0.
- Select “OFF” to turn this function off.



IV. SHARPNESS: Adjust the SHARPNESS level of full screen by setting the “GAIN” level from -8 ~8. Select “ HORIZONTAL” for adjusting H. SHARPNESS only. In the high light environment, select “ HIGH LIGHT APTURE”, then set “ON” or “OFF”. The larger the SHARPNESS parameter, the sharper the images.

V. MIRROR: Select ‘OFF’ to show the image as normal. Select “ON” to reflect image horizontally.



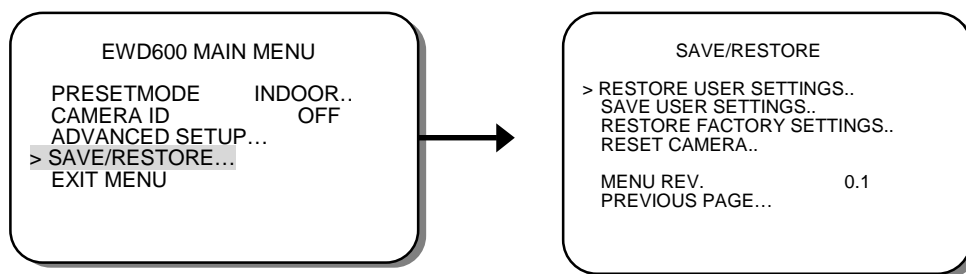
Normal



Mirror

VI.COLOR BAR: To confirm the color balance after adjustment, set “ON” to show the COLOR BAR on the monitor screen, press button ► to quit the COLOR BAR. Set “ OFF” for not showing the COLOR BAR on screen.

8. SAVE/RESTORE



I. RESTOER USER SETTINGS

Restore the previous user settings from memory. Press **SET** button to restore user setting.

II. SAVE USER SETTINGS

Save USER SETTINGS into the camera memory. Press **SET** button to save user setting.

III. RESTOER FACTORY SETTINGS

Restore the default setting. Press **SET** button to restore factory setting. Please refer to the Appendix-B for the default factory settings.

IV. RESET CAMERA

Restart the camera again. Press **SET** button to reset camera.

VI.MENU REV.0.1

Display the software version.

Note: The number will change by every time of the software change it's not keep as this manual.

CAMERA ID Character patterns

!	"	#	\$	%	&	'	()	*	+	,	-	.	/	0	1	2	3	4
5	6	7	8	9	:	;	<	=	>	?	@	A	B	C	D	E	F	G	H
I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	[\
]	^	_	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p
q	r	s	t	u	v	w	x	y	z	{		}	~		ı	¢	£	¤	¥
¦	§	¨	©	ª	«	¬	-	®	¯	°	±	²	³	´	µ	¶	·	,	¹
º	»	¼	½	¾	¿	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í
Î	Ï	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß	à	á
â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï	ð	ñ	ò	ó	ô	õ
ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ										

FACTORY SETTINGS CHART

PRESET MODE			
INDOOR	CAMERA VIEW		SHADOW
	SLOW SHUTTER		ON
	WDR MODE	AUTO	BIAS : 6
			LIMIT :24
	METER MODE	NORMAL	FULLSCREEN
CAMERA ID			OFF
ADVANCED SETUP			
AUTO IRIS	GAIN		200
	THRESHOLD		0
WHITE BALANCE	ATW	COLOR TEMP	0
		SPEED	10
LINELOCK	AUTO	V.PHASE	519
VIEWING	BRIGHTNESS		100
	CHROMA		-1
	GAMMA		AUTO
	SHARPNESS	GAIN	0
		HORIZOTAL	0
		HIGH LIGHT APTURE	ON
	MIRROR		OFF
	COLOR BAR		OFF

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